01632

1993/10/26

LAUNCH SERVICES INDUSTRY RECOMMENDATIONS FOR THE FOLLOW-ON US/PRC AGREEMENT ON COMMERCIAL LAUNCH SERVICES

USTR has requested recommendations from the launch services industry to support consultations with the PRC regarding a new agreement after the current one expires on 31 December 1994.

PHILOSOPHY

The first question to address is whether there should be a follow-on trade agreement with PRC, or whether the U.S. should revert back to the previous policy of not permitting exports of satellites to PRC. When the current agreement was being formulated it was considered to be a transition agreement pending market reform and other behavioral changes that would make China a full partner in the family of nations. There is sparse evidence that there has been much movement in that direction. This is not an industry question to address, but one that our government should certainly debate before entering into negotiations on a new agreement.

If there is to be a follow-on trade agreement, the basic premise of the existing PRC trade agreement and the later one with Russia is that market disruption by these two non-market economies must be limited until such time as these countries convert to market economies. At the time of formulation of the PRC agreement, it was concluded by the interagency group that more than 1.5 launches per year to a non-market economy would cause market disruption. The Russian agreement already allows 1.15 annually.

The PRC agreement has been in effect since January 1989. In its implementation certain weaknesses have been revealed. The pricing standard (on a par) in particular, has been a subject of much controversy. The agreement with Russia in 1993 was widely debated in the interagency process. It is generally more specific and thus it is easier to determine violations or non-compliance. Politically it may be difficult to justify major differences between the Russian agreement and the new PRC agreement unless it is desirable to make the case that PRC is less worthy of U.S. support.

We recommend the renewed PRC agreement be based primarily on the current Russian agreement.

RECOMMENDED ELEMENTS

Price - Same as Russia - not below 7 1/2% of the lowest western bid on any given competition.

Quantity - A maximum of eight communication satellite launches in a seven year period January 1995 - December 2001 and less if feasible.

If the PRC sanctions are still in effect at the beginning of 1995, delay the start of the agreement until such time as the sanctions are lifted. If the Chinese have been unable to fill the quota of the current agreement, the remainder should not be allowed to be added to the number in the new agreement. Their failure to meet the current quota would be due primarily to U.S. sanctions applied because of MTCR and human rights violations. The quota should also include all contracts that may be signed prior to the effective date of the new agreement.

Coverage - Same as Russia - the quantity constraint should apply to telecommunication payloads of U.S. manufacture or of other countries, including China, if used for international customers. It should include leases of satellites as well as contracts for launches.

Anti-bunching - Same as Russia - no more than two launches in any twelve month period.

Enforcement - It is very important that both of these agreements be strictly enforced. Our industry believes that withholding of the export license for contracts found to be in violation of the agreement is the only logical means of enforcement. We recognize that this subject is a difficult one, but we will continue to press for resolution of this point.

NEW CONSIDERATIONS

Since the signing of the Russian agreement, certain unforeseen events have occurred or are in the offing which should be addressed in the PRC agreement.

Hybrid Launch Vehicles

The combining of Russian or Chinese stages with those of western countries is being considered by certain companies. It is recommended that if launches occur from PRC territory or if a hybrid rocket contains more than a 50% weight content (empty -- no fuel) from a PRC source, then it should be defined as a PRC launch.

Sole Source Contracts

A U.S. company has announced the placing of a contract for a Russian launch on a directed source basis with no competitive prices of record. This type of procedure will be used frequently if allowed to bypass the pricing constraints of the Russian or the PRC agreement. Our industry is willing to support the development of a data base such that a comparable western price can be determined based on known

characteristics of the payload weight, size and other terms and conditions of the contract. This comparable price could then be used to determine if there has been compliance with the 7 1/2% rule.

Market Model

To determine the quantity constraint number that is considered the market disruption limit, one must make the best possible estimate of the future market.

Attached is the latest update of the expected market for launches of telecommunication satellites into geostationary orbits. It includes all those considered to have a 50% or greater chance of proceeding to launch. The annual average in the 1994-2000 period is 12 satellites. The Russian agreement and the proposed PRC agreement together would permit an average 2.3 launches per year by these non-market economies or 19% of the total market. There is no reason not to anticipate that Ariane will continue to capture 55% (6.6 satellites). 45% must be shared by the U.S. and NMEs. These two agreements may leave only 3.1 satellites to U.S. companies annually.

The low and medium earth orbit (LEO and MEO) market is not covered in the attachment. This market remains uncertain, but contracts are being firmed up. There are reports that Iridium already has plans to launch eight satellites on non-market launchers. It is suggested that deliberations be started on how to incorporate LEO and MEO limits into these two trade agreements. In the past year the potential for such systems has moved from possible to probable, but is still not certain. The four leading contractors for such networks, Iridium, Globalstar, Inmarsat P and Odyssey indicate plans for more than 126 satellites, but a number from 5 to 20 might be launched at any one time. The subject is complex, but the trade agreement principle of not allowing undue stress to the U.S. launch industry by non-market economies should still apply.

We appreciate the opportunity of making recommendations on this important subject and standby to help in anyway that we can.

OCTOBER 1993

MISSION MODEL ASSUMPTIONS AND CONCLUSIONS

ASSUMPTIONS

The following mission model is designed to support deliberations on international commercial launch services, particularly with respect to establishing quantity constraints for the non-market economies, Russia and the People's Republic of China.

Commercial launch services are used today almost exclusively for placing communication satellites into geosynchronous orbit. Other business sectors may develop in the future such as earth resources, materials processing and perhaps weather. Promising forecasts have been made about these areas for many years, but have still not come to fruition.

Assumption 1- Only launches of satellites with a mass of 3000 pounds or greater to geosynchronous transfer orbit (GTO) are included.

Assumption 2 - Only launches open to international competition are included. Government satellites of the U.S., Europe, China and Russia are not included. Satellites that are de facto captive, such as most of the European satellites of those countries which sponsor Arianespace, are included if competitive bids were sought or are expected.

Assumption 3 - Only those future launches whose probability of proceeding to launch is at least 50% are included.

Assumption 4 - The potential low earth orbit systems are not included. There is no way of knowing if any will become commercially viable. If any do, it is not known how they will be launched. It is likely that the initial network would be launched on large launch vehicles. As many as 20 satellites might be placed into orbit on one launch. If it becomes clear that one or more of these systems will be launched then the mission model must be changed accordingly.

CONCLUSIONS

1. The average number of launches procured through internationally competitive has been 11/year for 1988 through 1993.

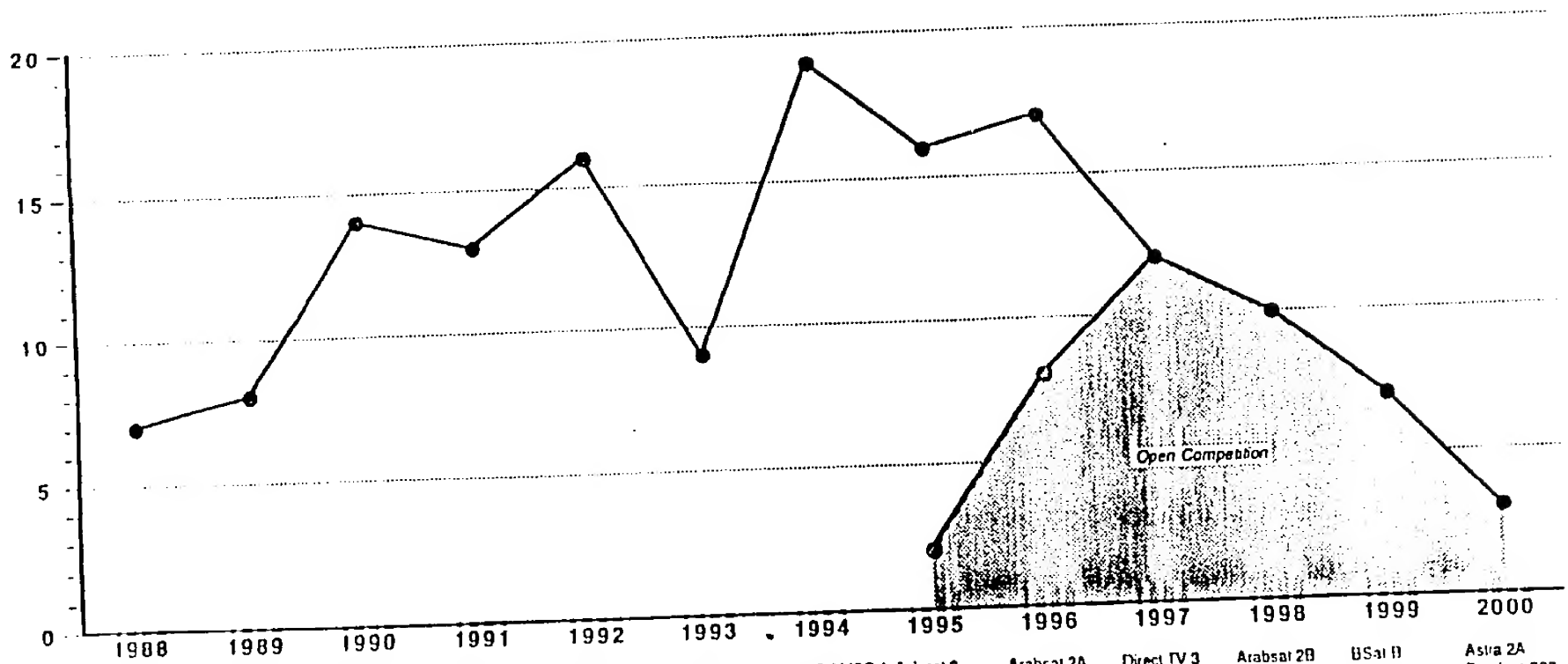
2. The average number expected from 1994 to 2000 is 12/year.

3. The mid 1990s show relatively high launch rates, primarily for programs already under contract. Continued high launch rates are unlikely due to overcrowding of the geosynchronous orbit, limited frequency availability, an expected glut of capacity from satellites already under construction, and the 10-15 year expected lifetimes of recent satellites.

4. Arianespace has announced a target of capturing 50-60% of the market and has demonstrated the ability to achieve this target. It is likely to continue this capture rate, aided by a number of de facto captive satellites. (Arianespace has a 93% win rate on de facto captive satellites.)

5. If Arianespace wins 55% of the expected 12 satellite launches per year, this leaves 5.4 per year for the U.S. industry to divide with Russia and China.

COMMERCIAL COMPETITIVE SATELLITE LAUNCHES



GStar 3
Intelsat 5I3
Intelsat 513
Panamsat 1
SBS 5
Skynet 4B
Satcomm 3R
(3)

BSB-1
Intelsat 515
Intelsat 602
JCSat 1
JCSat 2
Skynet 4A
Superbird A
TVSat 2
(8)

Asiasat 1
BS-2X
BSB-2
Galaxy 6
GStar 4
Inmarsat 201
Insat 1D
Intelsat 603
Intelsat 604
Palapa B2R
Satcom C1
SBS 6
Skynet 4C
Superbird B
(14)

Anik E1
Anik E2
Astra 1B
BS-3B
Contel ASC 2
Eutelsat 203
Inmarsat 202
Inmarsat 203
Intelsat 601
Intelsat 605
Intelsat 1
NATO 4A
Satcom C5
(13)

Arabsat 1C
DFS 3
Galaxy 1R
Galaxy 5
Galaxy 7
Hispasat 1A
Inmarsat 204
Insat 2A
Intelsat K
Optus B1
Optus B2
Palapa B4
Satcom C3
Satcom C4
Superbird AR
Superbird BR
(16)

Astra 1C
DirecTV 1
Galaxy 4
Hispasat 1B
Insat 2B
Intelsat 701
NATO 4B
Solidaridad 1
Telstar 401
(9)

MSAT AMSC 1
Asiasat 2
Asiasat 1D
Asiasat 1E
Brazilsat B1
Eutelsat 206
Brazilsat B2
Galaxy 8
BS-3N
Inmarsat 301
DirecTV 2
Inmarsat 302
Eutelsat 205
Intelsat 705
Galaxy 1RR
Intelsat 706A
Intelsat 702
JCSat 3
Intelsat 703
MGH 1
Intelsat 704
MGH 2
Optus B3
MSAT Canada
Orion 1
NStar a
Panamsat 2
NStar b
Panamsat 3
Palapa C1
Solidaridad 2
Panamsat 4
Telstar 402
(16)
Turksat 1
Turksat 2
(19)

Arabsat 2A
Astra 1F
Echostar 1
GE i
Inmarsat 303
Inmarsat 304
Intelsat 707A
Intelsat 708A
Intelsat 709
Intelsat 801
Intelsat 802
Intelsat 803
Intelsat 804
SAX
Telstar 403
Tempo 1
Tempo 2
(17)

Direct TV 3
Galaxy 9
GE 2
Insat 2D
Intelsat 805
JCSat 4
Measat 1
MSAT AMSC 2
Palapa C2
SatCD Radio 1
Skynet 4D
Superbird C
(12)

Arabsat 2B
Asiasat 3
Astra 1G
BSat A
Echostar 2
Eutelsat 301
Inmarsat 305
Mexico DBS 1
Orion 2
Skynet 4E
(10)

BSat B
Eutelsat 302
Galaxy 10
Intelsat 806
Measat 2
SatCD Radio 2
Superbird D
(7)

Astra 2A
Eutelsat 303
GE 3
(3)

COMMERCIAL COMPETITIVE SATELLITE LAUNCHES

LAUNCH YEAR	TOTAL	ARIANE	U.S.	CHINA	RUSSIA	TBD
1988	7	7				
1989	8	5	3			
1990	14	7	6	1		
1991	13	7	6			
1992	16	8	6	2		
1993	9	7	2			
1994	19	12	6	1		
1995	16	8	6			2
1996	17	6	1	1	1	8
1997	12					12
1998	10					10
1999	7					7
2000	3					3

RECENT HAPPENINGS THAT RELATE TO THE NME TRADE AGREEMENTS

1. Intelsat has board approval to lease a Russian Express satellite. They requested a waiver to exempt this lease from the Russian agreement.

2. Rimsat plans to lease three Gorizant and three Express satellites to be used by international customers.

3. Loral has announced a contract for one firm Proton launch and four options. Lockheed states that the contract satisfies the price constraint of the Russian agreement. They did not request bids from U.S. launch providers. There are rumors that all U.S. bids of the past for any size satellite may have been averaged to set a bench mark. This would be grossly understated for large Loral satellites.

4. Loral has signed two launch reservation agreements with PRC. Unclear if U.S. bids are for the same payloads.

5. Aerospatiale has announced study efforts are underway to form a hybrid launch vehicle using a Russian first stage and a European upper stage.

6. Asiasat II has selected Long March over Atlas and Ariane. GD has not been requested to furnish information on our bid for this launch to the government for "par" judgment.

7. Inmarsat has requested improvements to the Proton launch pad before their launch. They expect a proposal from the Russians to cost share the improvements. Thus, Inmarsat funds may be used for upgrading Russian facilities.